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RADIAL ARTERY PATENCY AFTER TRANSRADIAL ACCESS: EFFECTIVE AND EASY WAY TO REDUCE THE RADIAL ARTERY OCCLUSION RATE, RESULTS OF THE CRASOC (COMPRESSION OF RADIAL ARTERIES WITHOUT OCCLUSION) STUDY

i2 Poster Contributions
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Background: Minimizing injury associated with local compression after transradial access (TRA) for cardiac catheterization reduces radial artery occlusion rate.

Methods: From January 2009 to June 2011, we randomized 2107 TRA to low (13cc of air) versus ultra low (10 cc) inflation volume in the TR Band™ compression device. If bleeding occurred, 2 cc were added. After device positioning, type of compression was assessed ("patent hemostasis" or not). Compression was maintained for at least 4 hours. Radial artery patency was evaluated at 24 h by pulse oximetry during ulnar compression. Factors related to patency defined as positive pulse oximetry (PPO) were analyzed.

Results: No excess of bleeding related to type of compression (patent hemostasis or ultra low inflation volume) occurred. Re-bleeding at the puncture site requiring re-compression occurred rarely (1%). PPO was identified at 24h for 1938 of the 2107 TRA (92,0%). By univariate analysis, 24h lower patency rate was recorded with low body weight (≤ 70 kg, p= 0,020)), smaller patients (p = 0,012), peripheral arterial disease (p = 0.007), patients requiring bilateral TRA (p = 0,002) and low inflation volume cohort (90,6% PPO versus 93,7% for "ultra low inflation volume", p = 0,012). By multivariate analysis, 3 variables were related to higher PPO: patient's height (p = 0,024), compression's type (patent hemostasis, p = 0,022) and ultra low inflation volume (p = 0,007).

Conclusion: our study confirms 2 major factors of radial artery occlusion: peripheral arterial disease and small vessels, as reflected by low weight/ small body constitution. Minimizing compression's injury results in a higher rate of PPO. Systematic use of ultra low inflation volume (10 cc) for TR band™ compression after TRA is an easy and safe way to reduce occurrence of radial artery occlusion.